

### Patent Claims

1. A method for determining the zero-point error of a Coriolis gyro (1'), wherein
  - 5 - the resonator (2) of the Coriolis gyro (1') has a disturbance force applied to it such that a change in the stimulation oscillation of the resonator (2) is brought about, and
  - a change in the read oscillation of the resonator
  - 10 (2), which is produced by a partial component of the disturbance force, is extracted from a read signal which represents the read oscillation of the resonator (2) as a measure of the zero-point error.
- 15 2. The method as claimed in claim 1, **characterized in that** the disturbance force is an alternating force which modulates the amplitude of the stimulation oscillation.
- 20 3. The method as claimed in claim 2, **characterized in that** the disturbance force has a disturbance frequency whose period is substantially shorter than the time constant of the stimulation oscillation but is of the same order of magnitude as or greater than the time
- 25 constant of the Coriolis gyro.
4. The method as claimed in claim 2 or 3, **characterized in that** the change in the read oscillation is detected by subjecting the read signal
- 30 to a demodulation process on the basis of the disturbance frequency.
5. The method as claimed in claim 1, **characterized in that** the disturbance force is produced by a disturbance
- 35 signal which is band-limited noise.
6. The method as claimed in one of the preceding claims, **characterized in that** a linear combination is formed of a controlled part of an alternating signal,

which produces the stimulation oscillation, and an alternating signal, which results in the read oscillation being reset, and is passed to a rotation rate control loop/quadrature control loop for the Coriolis gyro, in such a way that the change in the read oscillation determined from the read signal becomes as small as possible.

7. A Coriolis gyro (1'), **characterized by** a device for determining the zero-point error of the Coriolis gyro (1'), having:

- a disturbance unit (26) which applies a disturbance force to the resonator (2) of the Coriolis gyro (1') such that the stimulation oscillation of the resonator (2) is modulated,
- a disturbance signal detection unit (27), which determines a disturbance component which is contained in a read signal (which represents the read oscillation) and has been produced by a partial component of the disturbance force, as a measure of the zero-point error.

8. The Coriolis gyro (1') as claimed in claim 7, **characterized by** a rotation rate control loop/quadrature control loop.

9. The Coriolis gyro (1') as claimed in claim 8, **characterized by** a control unit (28), which forms a linear combination of a controlled part of an alternating signal, which produces the stimulation oscillation, and an alternating signal which results in the read oscillation being reset, and passes it to the rotation rate control loop/quadrature control loop for the Coriolis gyro (1'), with the control unit controlling the linear combination of the signals such that the disturbance component, which is determined from the read signal, of the read oscillation becomes as small as possible.

10. The Coriolis gyro (1') as claimed in claim 9,  
**characterized in that** the disturbance signal detection  
unit (27) determines the disturbance component from a  
signal which is emitted from a rotation rate regulator  
5 (21) in the rotation rate control loop, and the linear  
combination of the signals is added to an output signal  
from the rotation rate regulator (21).